AMENDMENT TO THE SPECIFICATION

Please replace the paragraph beginning at page 8, line 21 with the following rewritten paragraph:

The $^{13}C/^{12}C$ isotope ratio of *Synechocystis* sp. PCC 6803 grown in culture was altered modestly via manipulation of the source of CO_2 for photoautotrophic growth (bicarbonate). Soluble proteins were separated from the membrane fraction after mechanical disruption of the cells. Membrane proteins were precipitated with acetone, dissolved in formic acid and subjected to analysis by liquid chromatography electrospray-ionization mass spectrometry with fraction collection (LC-MS+). Fractions were reduced, alkylated and digested with trypsin prior to MALDI-TOF analysis. Figure 1 compares the isotopic distribution for a peptide derived from phycocyanin A from control and the ^{13}C supplemented cultures. The change in isotopic distribution is readily apparent from the spectra and $^{13}C/^{12}C$ ratio was calculated from peak heights and areas using the Isosolv algorithm. The Isosolv algorithm, explained further in Example 7, measures carbon isotope distribution. Specifically, the probability of having 'n' ^{13}C's given 'X' total carbons and a ^{13}C probability of 'P' is based on the following formula: ~~prob(n)=combin(X,n)*Pn*(1-P)(X-n)~~ $\underline{prob(n)= combin(X,n) * P^n * (1-P)^{(X-n)}}$.

Please replace the paragraph beginning at page 17, line 9 with the following rewritten paragraph:

For a carbon isotope distribution the probability of having 'n' ^{13}C's given 'X' total carbons and a ^{13}C probability of 'P' is described as follows:

~~prob(n)=combin(X,n)*Pn*(1-P)(X-n)~~

$\underline{prob(n)= combin(X,n) * P^n * (1-P)^{(X-n)}}$

When given an elemental composition Isosolv uses this for estimation of $^{13}C/^{12}C$ ratio. When given a molecular weight, the number of carbons is estimated by dividing the

molecular weight by 110 (the average mass of an amino acid) and multiplying by 4.94 (the average number of carbons per amino acid). Then, given a measured isotopic distribution, the ^{13}C probability can be determined by calculating the difference between the measured distribution and the theoretical distribution for an arbitrary ^{13}C abundance. The estimated ^{13}C abundance parameters are then incrementally altered until the error between the theoretical distribution and the calculated distribution has been minimized thus yielding the ^{13}C probability in the measured spectrum. The version of Isosolv used in these examples includes natural minor contributions of D, ^{15}N, $^{17}/^{18}O$ only.